Construction Design Statement (CDS)

for new or expanding confinement feeding operations with an AUC[1] of more than 500 AU and not required to have a professional engineer (PE)[2]

Facility ID No.: _____
(if known)

Before filling this form, please read carefully the instructions on pages 13 to 15

Section 1: Required information:

Name of operation: _____

Owner: _____ Telephone: _____

Location of the operation: _____
(County) (Quarter/Quarter) (Quarter) (Section) (Township) (Range No.)

911 Address: _____
(Street address and number) (City) (State) (Zip Code)

Describe the proposed formed manure storage structure[3] including dimensions: length and width, or diameter; depth; and whether the tank is aboveground or belowground; covered or uncovered, made of concrete or steel. If necessary attach more pages:

_____

_____

_____

_____

Section 2: Manure management plan

A manure management plan must be submitted with this form, if after construction or expansion of a formed manure storage structure [3], the AUC[1] of the operation exceeds 500 animal units (AU), even if a manure management plan was previously submitted to the DNR.

☐ Enclosed is a manure management plan for my operation.

Signature of owner: _____ **Date:** _____

[1] Instructions on how to determine the AUC can be found in the Manure Management Plan (Form 542-4000) or the Construction Permit Application (Form 542-1428), which are also available at the DNR web site www.IowaDNR.com (select the link to 'Animal Feeding Operations'). If you have ownership in or assist in the management of another operation that is within 2,500 feet of the proposed confinement feeding operation or that utilizes a common area or system for manure disposal, you must contact an Animal Feeding Operations (AFO) Engineer at (515) 281-8941 or the nearest DNR Field Office (see page 15). This is because the two operations may be considered one and in that case, you must use the combined number of animal units of the operations.

[2] In this form, a PE is a professional engineer licensed in the state of Iowa or a NRCS-Engineer working for the USDA-Natural Resources Conservation Service (NRCS).

[3] Formed manure storage structure means a covered or uncovered concrete or steel tank, including concrete pits below the floor.

Enter Initials here:

Section 3: Construction design standards:

This section is to be completed and signed by the person responsible for constructing the formed manure storage structure(s)[3], certifying that it will be constructed according to the minimum construction design standards of Iowa Code 459, subchapter III. Complete sections (a, b or c) that apply to the proposed structure.

a) **Liquid and semi-liquid manure** (non-dry manure). Check one of the following:

(1) The proposed formed manure storage structure[3] will be designed and sealed by a PE[2].

STOP: This form does not apply. [Engineering documents and PE[2] certification will be needed. Contact an AFO Engineer (see page 15) for further information.]

(2) The proposed formed manure storage structure[3] is not designed and sealed by a PE[2], and:

- ☐ Will be a non-circular concrete tank, belowground, with walls laterally braced (or below the building), to be constructed in accordance to 567 IAC 65, Appendix D.
- ☐ Will be a non-circular concrete tank, belowground, to be constructed in accordance to MidWest Plan Service (MWPS), publication MWPS-36.
- ☐ Will be a circular concrete tank, to be constructed in accordance to MidWest Plan Service (MWPS), publication MWPS TR-9.

If any of the 3 boxes above are checked, you must complete pages 3.1 or 4.1 (whichever applies), also pages 7, 8, 9 and 10. If applicable, complete pages 11 and 12.

- ☐ Will be made of steel, constructed aboveground according to the manufacturer's recommendations. Complete pages 6.1 and 10. If applicable, pages 11 and 12.

b) **Dry manure**. Check one of the following:

(1) The proposed formed manure storage structure[3] will be designed and sealed by a PE[2].

STOP: This form does not apply. [Engineering documents and PE[2] certification will be needed. Contact an AFO Engineer (see page 15) for further information.]

(2) The proposed formed manure storage structure[3] is not designed and sealed by a PE[2] and:

- ☐ Will be an aboveground concrete tank. You must complete pages 5.1, 7, 8, 9 and 10. If applicable, complete pages 11 and 12.
- ☐ Will be an aboveground steel tank. You must complete pages 6.1 and 10. If applicable, complete pages 11 and 12.

(3) The proposed formed manure storage structure[3] is not designed and sealed by a PE[2] and:

- ☐ Will be a belowground or partially belowground concrete tank, to be constructed in accordance to 567 IAC 65, Appendix D, **OR**
- ☐ Will be a belowground or partially belowground concrete tank, to be constructed in accordance to MWPS-36.

If any of the 2 boxes above are checked, you must complete pages 3.1, 7, 8, 9 and 10. If applicable, complete pages 11 and 12.

c) **Upgraded concrete standards**: If the site exhibits karst terrain or drains into a known sinkhole, the upgraded concrete standards of page 11 must be followed, in addition to the requirements explained in sub-paragraphs "a" (non-dry manure) or "b" (dry-manure). For information on karst or sinkhole locations, please contact the DNR-Iowa Geological Survey at (319) 335-1575.

- ☐ No karst or sinkholes are present or were identified. Upgraded standards do not apply.
- ☐ Yes, karst or sinkholes are present or were identified. You must complete page 11.

Enter Initials here:

Non-circular concrete tanks
(Liquid and semi-liquid manure)
(Or dry manure, belowground or partially belowground)

This page is to be used for a proposed non-circular concrete tank, for the storage of liquid and semi-liquid manure (non-dry), **OR** for a belowground or partially belowground concrete tank, for the storage of manure exclusively in a dry form (*Submit additional copies of page 3.1 for other formed manure storage structures being proposed with different dimensions*):

Confinement Building Type: _____ Number of buildings: _____
(For example, "Swine nursery", "Farrowing", "Finishing swine")

Is the formed manure storage structure[3] with walls laterally braced ?

☐ Yes ☐ No

Type of material to be used for backfilling the walls (must check one box):

☐ Clean gravel, sand or sand-gravel mixtures (maximum 5% of fines). (*If using Appendix D, Tables D-1 or D-2 apply*)

☐ Gravel, sand, silt and clay mixtures, coarse sands with silt and/or clay (less than 50% fines). (*If using Appendix D, Tables D-1 or D-2 apply*)

☐ Low-plasticity silts and clays with some sand and/or gravel (50% or more fines), fine sands with silt and/or clay (less than 50% fines). (*If using Appendix D, Tables D-3 or D-4 apply*)

☐ Low to medium plasticity silts and clays with little sand and/or gravel (50% or more fines). (*If using Appendix D, Tables D-3 or D-4 apply*)

☐ Unknown. (*If using Appendix D, Tables D-3 or D-4 apply*)

Vehicles allowed within 5 feet of the walls:

☐ Yes ☐ No

Dimensions of concrete tank	Feet	Inches
Length		
Width		
Height or depth		
Wall thickness		

Vertical steel in walls:

☐ Grade 40, Rebar No. _____ Spacing: _____ (inches)

☐ Grade 60, Rebar No. _____ Spacing: _____ (inches)

Vertical steel in wall with pump out ports (if different than the above):

☐ Grade 40, Rebar No. _____ Spacing: _____ (inches)

☐ Grade 60, Rebar No. _____ Spacing: _____ (inches)

Horizontal steel in walls:

☐ Grade 40, Rebar No. _____ Spacing: _____ (inches)

☐ Grade 60, Rebar No. _____ Spacing: _____ (inches)

Now complete pages 7, 8, 9 and 10. In addition, if applicable, complete pages 11 and 12.

Enter Initials here:

Circular concrete tanks (Liquid and semi-liquid manure)

This page is to be used for a proposed circular concrete tank for the storage of liquid and semi-liquid manure (non-dry) designed according to Midwest Plan Service (MWPS) TR-9 (*Submit additional copies of page 4.1 for other formed manure storage structures being proposed with different dimensions*):

Confinement Building Type: _____ Number of buildings: _____
(For example, "Swine nursery", "Farrowing", "Finishing swine")

Is the circular formed manure storage structure[3] above ground?

☐ Yes ☐ Only partially ☐ No

Type of material to be used for backfilling the walls (Does not apply for above ground):

☐ Clean gravel, sand or sand-gravel mixtures (maximum 5% of fines).
☐ Gravel, sand, silt and clay mixtures, coarse sands with silt and/or clay (less than 50% fines).
☐ Low-plasticity silts and clays with some sand and/or gravel (50% or more fines), fine sands with silt and/or clay (less than 50% fines).
☐ Low to medium plasticity silts and clays with little sand and/or gravel (50% or more fines).
☐ Unknown.

Vehicles allowed within 5 feet of the walls (Does not apply for above ground):

☐ Yes ☐ No

Complete the following, all tanks:

Dimensions of the concrete tank	Feet	Inches
Diameter		
Height or depth		
Wall thickness		

Horizontal steel in walls:

☐ Enclosed is a copy of the completed "Record of Design Decisions", from MWPS TR-9 pages 21 and 22.

Vertical steel in walls:

☐ Grade 40, Rebar No. _____ Spacing: _____ (inches)
☐ Grade 60, Rebar No. _____ Spacing: _____ (inches)

☐ If the formed manure storage structure[3] to be constructed **aboveground** will have an external outlet or inlet below the liquid level, the tank will also be constructed according to the 567 IAC 65.15(20).

Now complete pages 7, 8, 9 and 10. In addition, if applicable, complete pages 11 and 12.

Enter Initials here:

Non-circular concrete tanks
(For dry manure, aboveground only)

This page is only to be used for a proposed non-circular concrete tank, to be constructed aboveground, for the storage of manure exclusively in a dry form (*Submit additional copies of page 5.1 for other formed manure storage structures being proposed with different dimensions*):

Confinement Building Type: _____ Number of buildings: _____
(For example, "Dairy confinement", "Chicken layer", "Dry manure building")

Dimensions of concrete tank	Feet	Inches
Length		
Width		
Height or depth		

Is the non-circular concrete tank, for the storage of manure exclusively in a dry form aboveground?

☐ Yes ☐ Only partially ☐ No

(If you checked the boxes for "Only partially" or "No", this page does not apply. Instead, you must complete pages 3.1, 4.1 and 6.1)

Now complete pages 7, 8, 9 and 10. In addition, if applicable, complete pages 11 and 12.

Enter Initials here:

Steel tanks (Aboveground only)

This page is only to be used for a proposed steel tank, to be constructed aboveground (*Submit additional copies of page 5.1 for other formed manure storage structures being proposed with different dimensions*):

Confinement Building Type: _____ Number of buildings: _____
(For example, "Swine nursery", "Farrowing", "Finishing swine")

Dimensions of steel tank	Feet	Inches
Length		
Width		
Diameter (circular tanks, only)		
Height or depth		

Is the steel tank aboveground?

☐ Yes ☐ Only partially ☐ No

☐ The steel tank will be constructed according to the tank manufacturer's recommendation.

Name of tank manufacturer: _____

Address: _____

☐ In addition, if the formed manure storage structure[3] to be constructed **above ground** will have an external outlet or inlet below the liquid level, the tank will also be constructed according to the 567 IAC 65.15(20). This does not apply for manure exclusively in a dry form.

Now complete page 10. In addition, if applicable, complete pages 11 and 12.

//. Section 3: Additional concrete requirements

In addition to pages 2, 3.1, 4.1 and/or 5.1, **all** or **some** of the following additional requirements apply if the design is not prepared and sealed by a PE[2]. To determine what additional requirements apply, please check one box in section A or B as follows:

A. The proposed formed manure storage structure[3] is:

- ☐ A concrete tank, for the storage of liquid or semi-liquid manure (non-dry manure).
- ☐ A concrete tank, for the storage of manure exclusively in a dry form. The tank will be belowground or partially belowground

If you checked either box, **all** of the following additional requirements (numbered items 1 to 15) apply.

B. The proposed formed manure storage structure[3] is:

- ☐ An aboveground concrete tank, for the storage of manure exclusively in a dry form.

If you checked this box, only the requirements of numbered items 1, 3, 4, 5, 6, 8 and 12 apply.

Additional Requirements - Check all the boxes that apply:

1. Subgrade preparation (check all of the following boxes):

- ☐ Finished subgrade will be graded and compacted.
- ☐ A uniform and level finished subgrade, made with similar soils will be provided.
- ☐ Subgrade will be free of vegetation, manure or debris.

2. Unless a PE[2] had determined according to 65.15(7)"c" that the formed manure storage structure[3] will be constructed above the ground water table, a drain tile must be installed to artificially lower the ground water table as required in 65.15(7)"b" (check all boxes that apply):

- ☐ Drain tile will be located as required in 65.15(14)"a"(2), numbered item 2.
- ☐ Drain tile will have a device to allow shut off and monitoring pursuant to 65.15(1)“c”. (Only if applying for a construction permit).
- ☐ A PE[2] certification according to 65.15(7)"c", is included.

3. The minimum compressive strength of the concrete, as placed will be (check all boxes that apply):

- ☐ 4,000 psi (walls, floors, pumpouts, beams, columns).
- ☐ 3,000 psi (footings).
- ☐ Test cylinders may be obtained.

Enter Initials here:

4. Cement and aggregates (check all boxes that apply):

   - ☐ Portland cement will be in conformance with the American Society for Testing and Materials (ASTM) Standard ASTM C 150.
   - ☐ Aggregates will be in conformance with Standard ASTM C 33.
   - ☐ Blended cements will be in conformance with Standard ASTM C 595. Use will be limited between March 15 and October 15, and must contain at least 75% by mass of portland cement.

   (See page 14 for information on where to obtain these ASTM standards).

5. Concrete consolidation or vibration will be done, according to American Concrete Institute (ACI) Building Code ACI 309 (check all boxes that apply):

   - ☐ Mechanical, **OR**
   - ☐ Manual, **OR**
   - ☐ Combination.

   (See page 14 for information on where to obtain the ACI 309).

6. Rebar will be (check all of the following boxes):

   - ☐ Minimum grade 40.
   - ☐ Rebar will be secured and tied in placed, prior to the placing of the concrete, with the exception of dowels.

7. Rebar cover and rebar placement (check all boxes that apply):

   - ☐ Minimum of 2 inches from the inside face of the wall (below the ground tanks).
   - ☐ Vertical rebar will be placed closer to the inside face of the wall.

8. Floor slabs will be (check all boxes that apply):

   - ☐ Minimum of 5 inches thick
   - ☐ Reinforcement minimum of #4 rebar spaced at 18" o.c. if tank height or depth is **4 feet or more**.
   - ☐ Shrinkage reinforcement minimum with 6 x 6- W1.4xW1.4 wire mesh if the tank height or depth is **less than 4 feet**.

9. Footings (thicken the area where the floor comes in contact with the walls and columns): (check all of the following boxes):

   - ☐ Minimum thickness shall be the wall thickness or 8 inches, whichever is greater.
   - ☐ Minimum length shall be twice the thickness.

Enter Initials here:

10. Tie bars or dowels to connect walls to footings (check all boxes that apply):

- ☐ Vertical steel of exterior walls will extend into the footing and bent at 90º, **OR**
- ☐ Will install a separate dowel (spacing will be the same as vertical rebar, for bent or extended dowel) according to either of the following:
  - ☐ #4 rebar bent at 90º with at least 20" or bar in the wall and extended into the footing, within 3" of the bottom of the footing and extended at least 3" horizontally, **OR**
  - ☐ #4 rebar, at least 12 inches into the footing with a minimum concrete cover of 3 inches at the bottom of the footing. For this alternative, footing must be at least 15 inches thick.

11. Rigid forms for placing of concrete (complete the needed information):

- ☐ Specify material used in concrete forms _____

12. All concrete will be cured, or adequate moisture protection will be provided, for at least 7 days, according to Building Code ACI 308, by using any of the following (check all boxes that apply):

- ☐ Cured with water by ponding (when applicable), spraying or fogging, **OR**
- ☐ Cured with a curing compound that meets Standard ASTM C 309.
- ☐ Protected with wet burlap or plastic sheets, **OR**.
- ☐ Other (specify): _____

(See page 14 for information on where to obtain the ACI 308 or ASTM C 309).

13. Construction joints will prevent discontinuity of steel and waterstops will be installed where fresh concrete meets hardened concrete. This is a critical component to provide water tightness to the structure (check all boxes that apply):

- ☐ Will install waterstops made of plastic, **OR**
- ☐ Will install waterstops made of rolled bentonite, **OR**
- ☐ Other (specify but DNR must approve it): _____

14. Backfilling of walls (check all of the following boxes):

- ☐ Will be done **after** floor slats or permanent wall bracing have been installed.
- ☐ Will use material free of vegetation, large rocks or debris.

15. If the concrete tank is deeper or higher than 12 feet, a PE^2 must design the structure (check the box that apply):

- ☐ Concrete tank will have a depth or height of 12 feet or less.
- ☐ Concrete tank will have a depth or height more than 12 feet. Therefore a PE^2 must design it.

STOP: This form does not apply.

[Engineering documents and PE^2 certification will be needed.
Contact an AFO Engineer (see page 15) for further information.]

//. Section 3: Construction certification.

This section is to be completed and signed by the person responsible for constructing the formed manure storage structure(s)[3], and if a PE[2] is not required:

"I hereby certify that I have read and understand the minimum design and construction standards of Iowa Code chapter 459, Subchapter III, and the 567 Iowa Administrative Code (IAC) 65.15(14) "Minimum concrete standards" or 567 IAC 65 (if other than concrete). The proposed formed manure storage structure(s)[3] at the confinement feeding operation

Name of operation: _____

Location of the operation: _____
(County) (Quarter/Quarter) (Quarter) (Section) (Township) (Range No.)

will be constructed in accordance with these minimum requirements."

Included with this certification are the following pages of the construction design statement (check all the boxes that apply):

- ☐ **Page 2**
- ☐ **Page 3.1**
- ☐ **Page 4.1**
- ☐ **Page 5.1**
- ☐ **Page 6.1**
- ☐ **Pages 7, 8 and 9**
- ☐ **Page 11 (karst terrain or sinkholes areas)**
- ☐ **Other (specify):** _____

(Print name)	**(Signature)**	**(Date)**
(Company)	**(Address)**	**(Phone No.)**

Upgraded Concrete Standards for karst terrain

The proposed formed manure storage structure[3] will be located in an area that exhibits karst terrain or that drains into a known sinkhole. Therefore, it will be constructed according to the upgraded concrete standards (check the boxes that apply):

(1) **Soils exploration**: A PE[2] or a qualified organization must prepare a soils exploration study that supports the determination of the vertical distance to limestone, dolomite or other soluble rock to be checked in the boxes of items (2) or (3), below (check all boxes that apply):

- ☐ Two soil borings equally spaced within each formed structure were obtained, **OR**
- ☐ Two test pits equally spaced within each formed structure were obtained.
- ☐ Enclosed is the soils exploration study.
- ☐ After completion of the soils exploration study, the soil borings or test pits have been properly plugged with concrete grout, bentonite or similar materials.

(2) **If vertical distance to soluble rock is 5 feet or more**: A minimum of 5 feet vertical distance between the bottom of the formed manure storage structure[3] and limestone, dolomite or other soluble rock must be maintained if the structure is not designed by a PE[2]:

- ☐ Vertical distance, as determined in (1) is 5 feet or more.
- ☐ A PE[2] is not needed and the operation is below threshold requirements[4].

(3) **If vertical distance to soluble rock is less than 5 feet**: The vertical distance between the bottom of the formed manure storage structure[3] and limestone, dolomite or other soluble rock, as determined in (1) is less than 5 feet:

- ☐ Therefore, the design must be prepared and sealed by a PE[2]:

STOP: This form does not apply.

[Engineering documents and PE[2] certification on structural stability will be required in karst terrain or sinkholes. Contact an AFO Engineer (see page 15)] for additional information.]

(4) **Ground water monitoring**:

- ☐ I will perform ground water monitoring under the conditions that DNR will specify.

(5) **Back filling of walls**:

- ☐ Will not start until the floor slats have been placed or the permanent bracing for the walls have been installed.
- ☐ Backfilling of the walls will be performed with material free of vegetation, large rocks or debris.

(Print name)	**(Signature)**	**(Date)**
(Company)	**(Address)**	**(Phone No.)**

[4] Threshold requirements apply to confinement feeding operations that utilize formed manure storage structures and are required to obtain a construction permit. An operation that meets or exceeds the "threshold requirements", must have a PE that prepare and seal the design of the formed manure storage structure. The threshold requirements are explained in the construction application DNR-Form 542-1428, which is also available at the DNR web site www.IowaDNR.com (select the link to 'Animal Feeding Operations') or contact an AFO Engineer (see page 15).

Section 4: Drainage tile certification

This section is only required for a confinement feeding operation applying for a construction permit and that is constructing three or more confinement feeding operations structures[5].

This section is to be completed and signed by the person responsible for excavating the confinement feeding operation structure(s)[5] if the total project involves the construction of three or more confinement feeding operation structures[5]:

"I hereby certify that I have read and understand the requirements of 567 Iowa Administrative Code (IAC) 65.15(1) and that to the best of my knowledge, information and belief, the proposed confinement feeding operation structures[5] at the confinement feeding operation

Name of operation: _____

Location of the operation: _____
(County) (Quarter/Quarter) (Quarter) (Section) (Township) (Range No.)

will not impede the drainage of established drainage tile lines which cross their property lines and if construction disturbs drainage tile lines, I will take the necessary measures to reestablish drainage and, upon completion of construction, file a statement that those measures were taken to reestablish drainage."

(Print name)	**(Signature)**	**(Date)**
(Company)	**(Address)**	**(Phone No.)**

[5] A confinement feeding operation structure includes a confinement building, a formed or unformed manure storage structure, or an egg washwater storage structure that are part of a confinement feeding operation. A confinement building with a below the floor concrete pit (deep or shallow) will count as one confinement feeding operation structure. For example, if an operation proposes to construct 2 confinement buildings, each with a below the floor shallow concrete pit, and an outside above the ground concrete circular tank, the operation will need a drainage tile certification if applying for a construction permit.

Instructions:

Who is required to file a Construction Design Statement (CDS)?

1. New or existing confinement feeding operations must file a CDS with DNR prior to starting construction of a formed manure storage structure[3] if after construction or expansion, the operation will have an animal unit capacity (AUC)[1] of more than 500 animal units (AU).

Who is not required to file a CDS?

2. A CDS is not required if after construction or expansion the confinement feeding operation has an AUC[1] of 500 AU or less (small animal feeding operation or SAFO). However, a SAFO must still comply with other state requirements before starting construction. Contact the DNR (see page 15) for additional information.
3. A CDS is not required if the confinement feeding operation meets or exceeds threshold requirements[4] or if it utilizes an anaerobic lagoon, aerobic structure, earthen basin or egg washwater structure (a PE[2] is required).
4. In lieu of a CDS, you may submit engineering documents, including a statement approved by a PE[2] certifying that the formed manure storage structure[3] will be constructed according to the minimum standards of Iowa Code chapter 459, Subchapter III, and 567 Iowa Administrative Code (IAC) chapter 65.

Who signs the CDS form?

5. Sections 1 and 2 (page 1) must be completed and signed by the owner of the operation.
6. Section 3, (pages 2, 3.1, 4.1, 5.1, 6.1, 7, 8, 9, 10 and 11) must be completed and signed by the person(s) responsible for constructing the proposed formed manure storage structure(s)[3].
7. Section 4 (page 12) is required only when applying for a construction permit and the project involves 3 or more confinement feeding operation structures[5]. Must be completed and signed by the person(s) responsible for constructing or excavating the proposed formed manure storage structure(s)[3].

What sections and pages do I need to include?

8. It will depend on the number and type of confinement feeding operation structures[5] being proposed and the type of manure being stored:

    1) Sections 1 and 2 (page 1) must be completed by a person required to file a CDS with DNR.

    2) Section 3 (pages 2 to 11) must be completed according to the type of formed manure storage structure[3] being proposed and the type of manure to be stored. Page 2 contains instructions on which pages are required. Please read carefully page 2 and complete the appropriate boxes:

        a. ❑ Liquid and semi-liquid manure (non-dry):
            - ☐ Non-circular concrete tank:
              Complete pages 2, 3.1, 7 to 10, and if applicable, pages 11 and 12.
            - ☐ Circular concrete tank:
              Complete pages 2, 4.1, 7 to 10, and if applicable, pages 11 and 12.
            - ☐ Steel tanks, aboveground only:
              Complete pages 2, 6.1 and if applicable, pages 11 and 12.

        b. ❑ Dry manure:
            - ☐ Aboveground concrete tank:
              Complete pages 2, 5.1, 7 to 10, and if applicable, pages 11 and 12.
            - ☐ Belowground or partially belowground concrete tank:
              Complete pages 2, 3.1, 7 to 10, and if applicable, pages 11 and 12.

        c. ❑ Areas that exhibit karst or that drain into a known sinkhole:
            - ☐ Liquid, semi-liquid or dry manure:
              In addition must complete page 11.

    3) Section 4 (page 12) must be completed if the construction of the formed manure storage structures[3] requires a construction permit, and construction involves three or more confinement feeding operation structures[5].

What are the DNR minimum concrete standards?

9. Subrule 65.15(14) has established the minimum concrete standards that vary depending on the size of operation, type of structure, type of manure and location of the operation. These standards are available at the DNR's web site: www.IowaDNR.com (select the link to "Animal Feeding Operations") or contact an AFO Engineer (see page 15) or your nearest DNR-Field Office (see page 15) to request a copy or for additional information.

What other technical documents are available?

10. Producers and contractors that do not have a PE[2], are strongly encouraged to consult the following documents prior to the design and construction of their formed manure storage structures:

    a) MidWest Plan Service (MWPS): Publications
    - MWPS-36 (for non-circular tanks).
    - MWPS TR-9 (for circular tanks).

    Their web site is www.mwpshq.org and their toll free number is 1-800-562-3618.

    b) American Concrete Institute (ACI), Building Codes:
    - ACI 318, ACI 360, ACI 308 and ACI 309.

    Their web site is www.aci-int.org/general/home.asp and their phone number is (248) 348-3700.

    c) American Society for Testing and Materials (ASTM) standards:
    - ASTM C 94, ASTM C 150, ASTM C 33, ASTM C 595 and ASTM C 309.

    Their web site is www.astm.org and their phone number is (610) 832-9585.

    d) Portland Cement Association (PCA):
    - Publications IS072, EB001 and EB075.

    Their web site is www.cement.org and their toll free phone number 1-847-966-6200.

    e) Natural Resources Conservation Service (NRCS):
    - "Waste Storage Facility - Code 313".
    - IA-1 "Site Preparation".
    - IA-31 "Concrete".
    - IA-32 "Concrete for Non-Structural Slab".
    - Agricultural Waste Management Field Handbook" (AWMFH).

    For more information visit www.ia.nrcs.usda.gov or call (515) 284-4357, or contact your nearest NRCS office.

    f) The Parks Library at Iowa State University in Ames, Iowa owns the ACI and ASTM standards which are located in its Reference Collection on the first floor. Visitors are welcome to use these books. If assistance is required, patrons are encouraged to visit the library when the Reference Desk is staffed. For hours and information, please visit the ISU Library Web site at http://www.lib.iastate.edu or call: (515) 294-3642.

    g) The Lichtenberger Engineering Library at the University of Iowa in Iowa City, Iowa, owns the ASTM standards and ACI 318 which are available for public review on permanent reserve. Other ACI building codes are available in the reference section. For hours and information, please visit the U of I Library web site at http://www.lib.uiowa.edu/eng/ or call: (319) 335-6047.

    h) The Rod Library at the University of Northern Iowa in Cedar Falls, Iowa has in their reference area the ASTM standards relevant to these minimum concrete standards. For library hours and information, please visit the Library their web site at www.library.uni.edu or call (319) 273-2838.

What is the drainage tile certification?

11. It is a document (page 12), that must be signed by the person(s) that will excavate the confinement feeding operation structure(s)[5] as required in 567 IAC 65.15(1). It is to ensure that you or your contractor or the construction project will not impede the drainage of established tile lines. If drainage tile lines are encountered, measures must be taken to reestablish drainage before construction is completed. Must file a report on the findings.

12. Drainage tile investigation is also required only to operations applying for a construction permit and pursuant to 65.15(1)"c". Existing drainage tile lines that are encountered, must be re-routed around the formed manure storage structure to ensure continuance of the drainage. All other drainage tile lines discovered shall be rerouted, capped, plugged with concrete, portland cement concrete grout or similar materials or reconnected to upgrade tile lines. Drainage tile lines installed at the time of construction to

lower a groundwater table may remain where located. After construction, please file a report with DNR indicating whether drainage tile lines were encountered, re-routed or even if no drainage tile lines were encountered.

When do I mail this form?

13. Confinement feeding operations applying for a construction permit, must submit this completed CDS along with the construction application documents to the DNR and to the county where the operation is or will be located, at least **90 days** prior to starting construction.

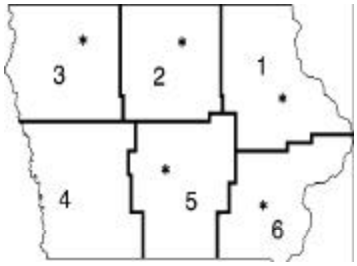
14. Confinement feeding operations that do not need a construction permit but are required to submit a manure management plan, must file the CDS along with the manure management plan, at least **30 days** prior to starting construction. A copy of the manure management plan must also be delivered to the county where the operation is or will be located and to each county where manure will be land-applied, at least **30 days** prior to starting construction.

Where do I mail my CDS?

15. **For construction permit applications**: If a construction permit is required, mail the completed and signed CDS forms (along with the required construction application documents and fees) to the DNR at the following address:

Iowa DNR
Animal Feeding Operations (AFO) Engineers
Wallace State Office Building
502 East 9th St.
Des Moines, IA 50319
(515) 281-8941

16. **For manure management plans only (Unpermitted sites)**: If the confinement feeding operation is not required to apply for a construction permit, but is required to file a manure management plan, this completed and signed CDS form (along with the manure management plan and required fees) must be submitted to the nearest DNR Field Office:



Field Office 1 **909 West Main, Suite 4** **Manchester, IA 52057** **(563) 927-2640**	**Field Office 3** **1900 N. Grand Avenue** **Spencer, IA 51301** **(712) 262-4177**	**Field Office 5** **401 SW 7th, Suite 1** **Des Moines, IA 50309** **(515) 725-0168**
Field Office 2 **2300 15th St SW** **Mason City, IA 50401** **(641) 424-4073**	**Field Office 4** **1401 Sunnyside Lane** **Atlantic, IA 50022** **(712) 243-1934**	**Field Office 6** **1023 W. Madison** **Washington, IA 52353** **(319) 653-2135**